

REMARKS

The Office Action of July 31, 2007, has been carefully reviewed, and in view of the above amendments and the following remarks, reconsideration and allowance of the pending claims are respectfully requested.

In the above Office Action, claims 1-4 and 7-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Chandrasekaran (U.S. Patent No. 6,093,157). For at least the following reasons, Applicants traverse these rejections.

The primary reference upon which the Examiner relies, Chandrasekaran, discloses a guide wire 22 including "generally a shaft 34 and a radiopaque layer 32. Shaft 34 is preferably solid and can be formed of stainless steel such as high strength Hyten 304V stainless steel. Shaft 34 can also be formed of superelastic materials such as Nitinol or cobalt base alloys such as Elgiloy." Col. 3, line 66 - Col. 4, line 5. One embodiment of the "radiopaque layer includes a harder layer disposed over a softer layer disposed over a harder layer disposed over a softer layer. Limiting the thickness of the harder, less flexible layers provides increased flexibility and reduces problems such as cracking within the harder layer, which can occur when flexing the distal portion, and which can be more pronounced in thicker, harder gold alloy layers. An alternate embodiment radiopaque layer includes a substantially continuously varying alloy composition and hardness, increasing in hardness with increasing radial distance from the guide wire shaft." Col. 2, line 59 - Col. 3, line 2. In the alternate embodiment of Figure 5, "[[R]]adiopaque layer 32 is formed of a substantially continuously variable composition layer 48, with layer 48 preferably being softest where meeting guide wire shaft 34 at 47, and hardest near the surface at 49. The alloy composition of layer 48 can be varied utilizing vacuum

deposition chambers equipped with energetic sputtering or ion beam assisted processes. The composition of the gold alloy can vary with increasing thickness, providing the benefits of a hard external wear surface and a graded, more flexible underlying layer having less residual stress." Col. 4, line 66 - Col. 5, line 10.

Applicants respectfully contend that Chandrasekaran fails to disclose or suggest the invention of claim 1. The guide wire of Chandrasekaran includes a shaft or center layer 34 formed of a first material and a radiopaque layer 32 formed of a substantially continuously variable composition layer 48. The material forming the shaft/center layer 34 does not include the material forming the radiopaque layer 32, i.e., continuously variable composition layer 48. Conversely, the radiopaque layer 32 is one layer defined by continuously variable composition layer 48. It does not have an intermediate layer formed of a mixture of the shaft forming material and the radiopaque layer forming material, more particularly, radiopaque layer 32 does not include stainless steel such as high strength Hyten 304V stainless steel, superelastic materials such as Nitinol or cobalt base alloys such as Elgiloy which are disclosed as the materials forming the shaft 34.

Applicants respectfully submit that Chandrasekaran fails to disclose that 1) the second material forming the surface layer is a metallic material higher in rigidity than said Ni-Ti based alloy, 2) the intermediate layer is formed of a mixture of said first material and said second material, and 3) the weight ratio of the first material to the second material in the material for forming the intermediate layer is in the range of from 1:9 to 9:1, as recited in claim1. Accordingly, claim 1 is not anticipated by the cited prior art.

With respect to independent claim 8, the Examiner again appears to rely upon the disclosure of radiopaque layer 32 being formed of a substantially continuously variable composition layer 48, with layer 48 preferably being softest where meeting guide wire shaft 34 at 47, and hardest near the surface at 49 to meet the claimed invention. However, Chandrasekaran fails to disclose 1) a surface layer formed of a mixture of the first material forming the center layer and a second material, 2) a surface layer is decreased in a content of said first material toward an outer surface and increased in a content of said second material toward the outer surface, and 3) a surface layer having gradient physical properties in a radial direction. Accordingly, Applicants respectfully submit that claim 8 is not anticipated by the cited prior art.

Chandrasekaran also fails to disclose the invention of claim 9. The guide wire of Chandrasekaran includes a shaft or center layer 34 formed of a first material and a radiopaque layer 32 formed of a substantially continuously variable composition layer 48. The material forming the shaft/center layer 34 does not include the material forming the radiopaque layer 32, i.e., continuously variable composition layer 48. Conversely, the radiopaque layer 32 does not have an intermediate layer formed of a mixture of the shaft forming material and the radiopaque layer forming material, more particularly, radiopaque layer 32 does not include stainless steel such as high strength Hyten 304V stainless steel, superelastic materials such as Nitinol or cobalt base alloys such as Elgiloy which are disclosed as the materials forming the shaft 34.

As recited in claim 9, Chandrasekaran does not disclose a center layer, intermediate layer, and surface layer provided in this order from a center of said main

body portion toward an exterior of said main body portion, or an intermediate layer formed of a mixture of the first material forming the center layer and the second material forming the surface layer. There is also no disclosure of an intermediate layer increased stepwise or gradually in a content of said first material toward said center layer, wherein the first material is a first metallic material, said second material is a second metallic material higher in rigidity than said first metallic material, and said second metallic material is stainless steel. As such, claim 9 is not anticipated by the cited prior art.

Claims 13 and 14 recite that the main body portion is formed by a sintered body, and further describe the same. Chandrasekaran fails to disclose or suggest formation of the central shaft by sintering. Accordingly, Applicants respectfully submit that claims 13 and 14 are not anticipated.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.

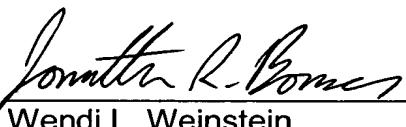
Should any questions arise in connection with this application or should the Examiner believe that a telephone conference would be helpful in resolving any remaining issues pertaining to this application; the Examiner is kindly invited to call the undersigned counsel for Applicants regarding the same.

Respectfully submitted,

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